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ABSTRACT

The problems confronting educators attempting to develop and implement competency based education (CBE) programs at the secondary and post secondary levels are indeed challenging. There is no uniformity with regard to key elements in competency based programs, such as educational goals, curriculum, institutional environment, pedagogical techniques, evaluation of student performance, and rules and procedures. This lack of uniformity makes definition of competency based education difficult. The author outlines some of the problems arising in the implementation of competency based programs in 24 areas, including staff recruitment, development, and evaluation, budgeting, credentialing, community relations, relations with parents, research and information acquisition, program evaluation, legal questions, organizational sturcture, and student admissions and advising. She concludes that considerable educational innovation is occurring under the rubric of CBE and calls for more assistance from the research and development community for harried educators. (Author/DS)

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PROBLEMS IN IMPLEMENTING COMPETENCY-BASED PROGRAMS

by

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A. PREFACE

I am indebted for many of the insights in this paper to several people who have been involved with or interested in competency-based education.

From September 1973 to December 1974, I worked with Thomas Corcoran (then with the Educational Policy Research Center at Syracuse and currently with the U.S. Fund for the Improvement of Postsecondary Education--the Fund) who directed the Task Force on Competency-Based Education sponsored by the Fund. On his departure from Syracuse in August of 1974, I was appointed Acting Director of the Task Force. Membership on the Task Force was as follows:

- -Audrey Cohen, President, College for Human Services
- -Robert Birney, Vice President, Hampshire College
- -Zelda Gamson, Professor, Center for the Study of Higher Education, University of Michigan
- -Morris Keeton, Provost, Antioch College
- -Frederick J. McDonald, Senior Research Psychologist, Educational Testing Service
- -Ernest Palola, Vice President for Research and Evaluation, Empire State College
- -Samuel Postlethwait, Professor of Biology, Purdue University
- -Stephen Sunderland, Dean of Planning, Research and Professional Development, College for Human Services (alternate with Audrey Cohen)

In the course of the Task Force's work, several institutions were visited in an attempt to understand what competency-based education (CBE) involved, its potential, and the needs of practitioners implementing these programs. Since other task forces had focused upon competency-based teacher education (CBTE), ours included Frederick McDonald who was directing a CBTE task force, and we focused attention primarily upon competency-based liberal arts and career-oriented programs in areas other than teacher education.

Since the close of the project, I have remained in touch with several of the people contacted then, and we have continued to trade ideas and

to discuss issues. In addition, my colleague at the Educational Policy Research Center, Gerald Grant, is currently directing a team of individuals studying CBE on behalf of the U.S. Fund for the Improvement of Postsecondary Education.

Material directly used in preparing this paper includes a transcript of an interview I conducted with Ruth Nickse, Director of Assessment, Regional Learning Service of Central New York, Syracuse University Research Corporation and a short paper prepared by Ernest Palola, Assistant Vice President for Research and Evaluation at Empire State College in Saratoga Springs, New York. The Regional Learning Service has implemented the country's first external competency-based high school program. Empire State College is a nonresidential, decentralized innovative college with units across New York State. Their Office of Institutional Research is noteworthy for its energy, creativity and quality of work.

B. WHAT IS COMPETENCY-BASED EDUCATION?

In attempting to understand what competency-based education (CBE) is about and the problems CBE practitioners are confronting, it is helpful to first recognize the kinds of things that must be taken into account in founding any educational institution or changing any existing educational institution's learning goals for students:

Educational Goals
Curriculum, Institutional Environment, and Pedagogical Techniques
Staff Recruitment
Staff Development
Staff Evaluation
Incentives
Organizational Structures
Rules and Procedures
Backup Services
Admissions Criteria and Procedures
Staff and Student Orientation
Record Keeping and Institutional Coinage
Cost to students/Revenues to Institution/Budgeting
Student Advising
Evaluating Student Progress
Credentialing
Program Evaluation
Accreditation
Community Relations
Relation with Parents
Faculty and Staff Relations
Relations with State Departments of Education
Institutional Research and Information Acquisition
Legal Rights and Responsibilities of States, Educational Institutions, and Students

If one examines all educational institutions or programs that call themselves "competency-based," there is no uniformity with regard to any of these elements. There is, for example, no uniformity with regard to educational goals; curriculum, institutional environment and pedagogical techniques; ways in which students are evaluated; or rules and procedures followed.

This fact of nonuniformity is one of the reasons why it is difficult to say what competency-based education is. The activities of CBE insitutions do not differ in kind from the activities of traditional institutions. Saying

that a program is "competency-based" tells us no more about what the program might look like than saying a program is "traditional."

Then what is CBE? Let us make yet another attempt to distinguish it. It is an ideal, and even at that, there seems to be no consensus on what that ideal is other than that it has to do with competency. Unlike progressive education, it is not undergirded by a philosophy of education and it has no spokesman.*

Traditional programs talk about producing an "educated" person. CBE programs talk about producing a "competent" person. Talking about "competency' shifts attention to action and what it means to do things well or competently; and one thing that all CBE programs do seem to have in common is that they are talking about extra-institutional competency. They are, of course, concerned with students being competent at activities engaged in during their formal education, but they are most concerned with their performing competently outside educational institutions. The ideal of CBE seems to be to analyze what it means to be competent in these extra-institutional activities and to assure that all the educational activities of that institution are "relevant"--that is, demonstrably related to competently engaging in those activities.

It would be strangeto think that "traditional educators" do not have the same thing in mind. However, they have not been especially attentive to discovering and demonstrating to what kinds of activities the education they are providing is relevant. All education is relevant to some kind of activity, be it only to entertaining ideas.

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* Although,one might say that Allen Schmeider has become the spokesman for competency-(or performance-)based teacher education (CBTE or PBTE). CBTE/PBTE makes an attempt at certain uniformities (attempts to stipulate definitions),but outside the area of teacher education, no such attempt is being made. (Cf. Allen Schmeider, "Competency-Based Education: The State of the Scene," American Association of Colleges for Teacher Education and ERIC Clearinghouse on Teacher Education, PBTE Series: No. 9, February 1973.)

What seems to distinguish competency-based education from traditional education is the emphasis given to discovering and making explicit the instrumental value of education. However, it is not simply a matter of looking at what is done (or taught) and saying how it is relevant, but rather deducing a relevant education from what is to be done. When such a deduction does not occur and when the institution does not significantly change what is taught and what is learned, but merely adopts the language of CBTE in talking about what is done, this state of affairs is referred to as "old wine in new bottles." Looking at extant CBE programs, one can find instances of "old wine in new bottles"--particularly where CBE has been mandated or extorted. (Teacher education is particularly problematic in this regard.)

As pointed out by Paul Pottinger,* there are considerable differences in how programs make the deductions, and no CBE program thus far has had a body of information derived from systematic empirical investigations to use as the basis of the deductions. The ideal of CBE is to have such an information base to work with.

As things stand, where CBE programs are deduced, it is primarily from the unsystematic (but nonetheless empirical) observations of administrators, faculty and others involved in establishing the institution's educational goals; that is, deductions are based on their experience--what they think is relevant education for particular kinds of activities. For this reason, some might say there are no competency-based educational programs, simply a number of educational institutions attempting to become competency-based. There are no extant paradigms. There is merely an ideal.

Meanwhile, the language of CBE has created considerable mischief. There is a good deal of semantic confusion in the technical language of CBE and considerable unnecessary linguistic invention that makes many familiar

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* "Comments and Guidelines for Research in Competency Identification, Definition and Measurement," McBer & Company, prepared for Educational Policy Research Center, Syracuse University Research Corporation, NIE Contract #400-75-0036, June 19, 1975.

ideas sound foreign and, to some, offensive. The staff of the U.S. Fund for the Improvement of Postsecondary Education ("The Fund") recognizes this problem and may drop their special-focus competency-based program. Funding CBE programs as CBE programs promulgates the language of the movement, and the language is very confused at the moment. Moreover, since the empirical foundation for deducing CBE programs does not exist, the name is misleading. More is expected of these programs than is reasonable under present circumstances, and there is the risk that their successes will be overlooked in light of their failure ot rigorously demonstrate the congruence of their goals and standards with the demands of competent practice. What the Fund wishes to support are institutions that are creatively addressing a series of educational problems (as outlined in their guidelines) through changing their educational programs and procedures. In other words, if the special focus CBE program had not been established, the same programs that are currently funded would probably have been funded without respondents believing it was necessary to adopt the CBE language. The Fund's guidelines would perhaps reflect the same kinds of concerns as they have in the past, but institutions would not have to adopt the language of competency-based education in order to submit proposals which address these concerns.*

There are all manner of other problems created by the language of competency-based education. These will not be dealt with except to say that research that might be conducted that would benefit CBE (help programs to realize ideals) would probably benefit traditional programs quite as much. In light of this and the semantic confusions of CBE, it would probably be a mistake to label research and development which address problems of particular concern to CB practitioners as "CBE research and development." It would be better to simply describe problems needing to be addressed in familiar, "ordinary" language and to seek support for this research on behalf of postsecondary programs in general.

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* Conversations with staff of U.S. Fund for the Improvement of Postsecondary Education, September 1973 to present.

C. PROBLEMS IN IMPLEMENTING CBE PROGRAMS

Bearing in mind that most of the problems of implementing CBE programs do not differ in kind from the problems of implementing any other kind of educational program, all the items listed above (and undoubtedly others) must be taken into account, and it must be asked with respect to each: "Are old answers to the questions generated by this list adequate?" "Can we admit students on the same basis?" "Do we assess student progress in the same manner?" "Do the roles of the faculty look the same?" Etc. The answer given by most CBE practitioners is "No, new answers are called for," since many of the educational goals of their programs are different or are now to be taken very seriously.

Although the items on our list will not be discussed at length in relationship to CBE programs, all are relevant and are undergoing examination and change, and therefore merit attention.

Dealing with many of the questions, problems and issues that have arisen in the course of planning and implementing CBE programs has called for a good deal of intensive thought, creativity and effort. Many of the problems call for further research to provide needed kinds of information and new techniques. Other problems call for an evaluation of scattered efforts to deal with the problems--locating and making accessible the results of others' efforts.*

1. Educational Goals

a) Who decides? One problem CBE practitioners have pointed out has to do with the extent to which the faculty of institutions are or can be involved in setting broad goals of the institution and specific goals of its various programs. In the case of new programs, most of the faculty may be hired after goals have been

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* Project reports submitted to the U.S. Fund for the Improvement of Post-secondary Education are a particularly rich source in terms of identifying and evaluating efforts to date to deal with many of these problems.

formulated. New arrivals may feel left out, and there may be little room for them to pursue their interests. The problem can be somewhat mitigated by: (a) setting up structures for refining and redefining goals over time and, (b) by allowing room in the curriculum for special seminars, courses, projects, etc. that are of interest to faculty and students but may not be clearly instrumental in terms of a program or the institution's competency objectives for students--"good bets," in other words.

b) Competency Identification and Specification. This is dealt with at length by Paul Pottinger.* One problem not dealt with in his paper is the extent to which goals that do not easily translate into competency objectives become lost in the process of competency specification. The process can lead to the neglect of dimensions of the educational environment other than pedagogy and assessment--such things, for example, as the adult models, the motivational structure, general cultural aspects, physical features that promote or inhibit certain kinds of interaction such as play and informal conversations, etc. Moreover, it can lead to a failure to recognize the importance of education's having intrinsic value to students--that is, to be interesting and "survivable" education should not be too gruelling or entirely goal directed. There should be opportunities for exploration and discovery.

2. Curriculum, Institutional Environment, and Pedagogical Techniques

a) Some of the most important problems in planning appropriate learning experiences are discussed in the paper by David McClelland.**

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* Paul Pottinger, "Comments and Guidelines for Research in Competency Identification, Definition and Measurement," McBer & Company for the Educational Policy Research Center, Syracuse University Research Corporation, NIE Contract #400-75-0036, June 19, 1975.

** David McClelland, "Pedagogy and Competency-Based Education," McBer & Company for the Educational Policy Research Center, Syracuse University Research Corporation, NIE Contract #400-75-0036.

b) In postsecondary education, there is a general lack of availability of quality educational software other than college texts. Most of the creative energy that has gone into software development has been geared to elementary and secondary education. A partial solution to the problem would be to locate individuals who are engaged in developing quality materials and to support efforts to put them into marketable form.

c) There is a general problem with time allocations for efforts in planning learning experiences. Most programs are still engaged in fundamental planning while programs are being implemented. This can create extreme problems of work overload. No one has yet investigated the toll on the physical and mental health this exacts from the faculty and administrators in these programs and the sacrifices in quality that must be made to meet deadlines.

3. Staff Recruitment

Determining what characteristics new staff should evidence and how they are to be evaluated is a problem common to all educational programs. CBE calls upon faculty and administrators to engage in some unaccustomed activities; to engage in accustomed activities in a new way; and often to engage in activities with great intensity of effort. It is, therefore, very difficult to evaluate a potential staff member in terms of their prior experience in traditional institutions. Thus, hiring staff for CBE programs involves, perhaps, a greater risk than hiring staff for traditional programs that do not require significant change of habits, attitudes, and abilities.

4. Staff Development

How are staff members to acquire new abilities, new information, new habits, new attitudes? There is no group (or groups) qualified to train faculty and staff for most of the new roles they wish to assume. A good deal of invention is called for, and some is occurring. These efforts need to be evaluated for effectiveness and feasibility. Furthermore, it is important to begin to more clearly understand the

dimensions of competent staff performance in CBE programs as new roles emerge.

5. Staff Evaluation

Needless to say, the lack of a clear understanding of the new roles required of faculty and administrators and the characteristics that enable people to perform well in these new roles inhibits the development of sound evaluation criteria and procedures. However, recognition is being given to new roles, and attempts are being made to design appropriate criteria and methods for staff evaluation. Furthermore, it is recognized that staff evaluation is part of the motivation structure of the institution. On the positive side, evaluating performance in new roles gives these new roles legitimacy and gives individuals performing them an opportunity to be rewarded for their contributions.

6. Incentives

A central question confronting CBE programs is how to motivate and reward staff and students. The accustomed dependence on the grading system, the carrot of good jobs upon graduation, promotion, tenure and raises is not particularly appropriate. Furthermore, a decision to individually tailor educational programs and allow students to proceed at their own pace provides some very difficult problems in terms of motivation of both students and faculty and in terms of faculty accountability. To cope with these problems, some CBE programs have instituted contracts to be completed, contract review by the administration, and deadlines to be met. Also, considerations of motivation have led some institutions to set up an assessment system that breaks accomplishments (and goals) down into bite-sized pieces so students can be "rewarded" at short intervals. Few students seem to be able to cope with and work diligently toward very distant goals.*

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* David McClelland Op. cit., discussed some of these problems in his paper and suggests some helpful approaches to research in this area.

7. Organizational Structures

Most CBE programs are experimenting with new modes of organization of faculty and administration. Attempts are being made to deduce organizational structures from the kinds of learning experiences that seem most appropriate for students to acquire particular kinds of abilities and particular attitudes. Needless to say, the best answer is not necessarily the traditional answer of departments organized according to disciplinary boundaries. However, until new approaches are tried and there has been sufficient time to evaluate their merits, it will be difficult to say what the trade-offs are in abandoning traditional modes of organization. Included among organizational structures undergoing change in CBE programs are those through which decisions are made, policies are set, rules and regulations are enforced, programs are administered, changes are planned, etc.

8. Rules and Procedures

Obviously, it is necessary to create new rules and procedures to accommodate CBE. Procedures are of particular interest: procedures for admission, procedures for student interaction with the faculty and administration, procedures for student and faculty evaluations, procedures for redressing grievances, etc.

9. Backup Services

Considerable creativity in providing backup services is also called for to accommodate CBE programs. These include new information systems; resource centers for faculty; new kinds of hardware and software--for example, the use of computers to enable complex scheduling; brokering between students, other institutions, work/study opportunities, etc.

10. Admissions

When CBE programs are individually tailored, students proceed at different paces, and there are opportunities for gaining academic

credit for "experiential learning", admissions (including transfers) becomes most problematic. Traditional programs did not worry particularly about articulation problems between the 12th grade and their programs and whether or not courses and grades at other accredited institutions were exactly equivalent to theirs. The criteria they were using for admissions (grades and test scores for the most part) were fairly predictive of success within their institution. CBE programs, on the other hand, have goals for success within the system that differ from goals of traditional programs and also are most concerned with post-academic success. The value of SAT's, LSAT's, GRE's, Millers, etc. is being questioned. Since there are no substitutes available, new (rather, very old) methods of evaluating students for admission which are highly subjective and very time-consuming are being used. Depending on the good judgment or lack thereof of personnel in admissions, these methods are either found to be very inadequate or adequate but too costly.

As pointed out by Pottinger, (op. cit., pp. 11-12), research is needed to serve as the foundation for constructing more reliable and less expensive methods for selection into educational programs.

11. Staff and Student Orientation

The need for special attention to orientation of new staff and faculty for nontraditional educational programs is obvious. Considerably more time and attention is being spent on orientation in CBE programs than in more traditional programs.

12. Record Keeping and Institutional Coinage

When: (a) progress is measured according to levels of proficiency with respect to particular kinds of competence, (b) student programs are individually tailored to their needs, (c) all students are not progressing at the same pace, and (d) different students are carrying a range of workloads (that is, workloads are not easily defined in terms of full-time, half-time or quarter-time), the old institutional

coinage system of grades, credit hours and full-time equivalents is inappropriate. New methods of recording student progress and new systems of institutional coinage are being created; for example, narrative transcripts, contracts, contract hours, competency-level units, etc.

13. Cost to Students/Revenues to Institution/Budgeting

Determining charges for various services is problematic, especially when there is individualized instruction and learning is time-variable. Since CBE is young, separating out start-up costs from normal operating costs of fully implemented programs is almost impossible. Therefore, it is difficult to gauge long-term revenue requirements. Many CBE programs begin with soft money and have to devise ways of making their programs self-supporting or discovering new funding sources. Budgeting is also difficult when new things are being attempted. It is difficult to gauge how much time will be needed and what further costs in addition to time of faculty and administrators will arise. The Fund has sponsored projects which attempt to more clearly delineate costs of CBE programs and to devise new cost/accounting systems which examine costs on effectiveness criteria that are less gross than the number of students graduated, credit hours generated, level of education of faculty, etc. Some of the work being done attempts to get a costs and what is called the "value-added" of educational services--that is, (a) where students stand with regard to levels of proficiency when they enter programs, (b) where they stand upon exit, and (c) how much the services provided cost. Of particular interest are the projects conducted by the Office of Institutional Research of Empire State College in Saratoga Springs, New York.

14. Student Advising

The need for effective systems of student advising increases with the number of options available to students. Effective advising is problematic in the face of deficient information on competency

requirements of jobs; what should be mastered in what order to enable the development of certain kinds of competence; what subject matters are appropriate for developing particular kinds of abilities and skills, etc. There are also few diagnostic tools available to advisors to help students understand their strengths and weaknesses. Most of the instruments available require skill in reading. If students lack that skill and the tests require it, then there is no way of determining what they do know or can do--their strengths.* Even with instruments for determining reading comprehension, it is difficult to separate out reading problems, per se, from other things such as a lack of familiarity with the kinds of ideas being dealt with or a high degree of abstraction. This problem is particularly acute when trying to assist so-called "culturally different" students. Even if there were appropriate instruments available, most often people acting in an advisory capacity do not know how to evaluate their appropriateness for particular students or particular student populations.

Another serious problem in student advising has to do with the lack of information on the labor market--local, regional and national. Much of the information that is desired has been stored in data banks, but time and expertise are required to put it to use in student advising.

15. Evaluating Student Progress

These problems are discussed at length in the Pottinger paper.

16. Credentialing

One of the major problems for competency-based programs is determining the kinds of things students must be able to do and at what level of proficiency in order to obtain an educational credential (certificates, associate's degrees, bachelor's degrees, master's degrees,

* Not being able to diagnose students' strengths puts a stigma on evaluations. All news is bad news, and there is little, if any, opportunity to capitalize on strengths.

and Ph.D.'s). As discussed in the Pottinger paper, information on competencies required in different extra-institutional activities and entry-level proficiency requirements of jobs would be very useful as benchmarks for deciding upon educational objectives and standards. Another problem involves the acceptability of such credentials. CBE programs are new, and it is difficult to predict how their credentials will be treated by employers. Much depends on the quality of current programs of CBE institutions. If an employer has experience with students from one institution with a "weak" program, this would probably undermine the efficacy of credentials from very effective programs in that employer's eyes (and the word spreads).

17. Program Evaluation

It would be most unfortunate if the extensive innovation and experimentation that is occurring under the rubric of "competency-based education" were not thoroughly evaluated with a focus on each of the various problems that are being dealt with. It is probably the case that no single program could be called an overwhelming overall success. Some aspects of the program may be outstanding successes, other aspects might be failures. All postsecondary programs stand to benefit from this kind of information--what has been tried and with what consequences, positive and negative. Many of the ideas being tested could be employed by traditional programs. A limited number of evaluation studies have been and are being conducted under the sponsorship of the U.S. Fund for the Improvement of Postsecondary Education. Supplemental focused evaluations that include equal attention to dissemination of findings would be most useful.

18. Accreditation

Ease of acquiring accreditation for CBE programs depends very much on the composition of the team sent to the institutions--whether or not these individuals are willing to give new ideas a fair hearing

and to cope with CBE jargon. At last report, accreditation was presenting no special problems to competency-based programs as such.

19. Community Relations

Many CBE programs are reaching out into the community to locate new learning resources for students. This involves developing contacts and avenues of communication with employers and individuals with talent and skill that can be brought to bear in the education of students. This is particularly true of new brokering agencies such as the Regional Learning Service of Central New York. These agencies often do not offer instruction, but rather put students in touch with individuals, institutions, and other learning resources. Some modes of assessment also strengthen ties with the community--for example, the jury panels at Alverno College which involve alumnae and community people with special areas of expertise. Also, where work/study is part of a CBE program, special efforts are made to strengthen ties and avenues of communication with employers and workers. The problem being addressed through these efforts is the limitations in the physical resources available at an educational institution and limits on the flexibility of the faculty and staff in providing the kinds of learning experiences required to attain certain kinds of competence.

20. Relations with Parents

Relations with parents will probably become a special problem for public competency-based secondary programs. Explaining new programs in terms that parents can understand will probably be terribly difficult, since program planners and implementers have difficulty understanding one another. Since most parents of children under the compulsory age limit cannot afford alternatives to public education, introducing changes in the public system at that level will probably prove more problematic than at the postsecondary level. What is unfamiliar is often threatening, and, of course, no one wants their child to be a victim of an unsuccessful education experiment.

21. Staff Relations

Difficulties in staff relations are exacerbated by the semantics of CBE. Also, when faculty are not being permitted to more or less "do their own thing" and must agree on what they are going to do, and how they are going to reduce duplication of effort, conflicts arise. Moreover, new criteria and procedures for evaluation represent a threat to some individuals who came out on top or believe they would come out on top given traditional criteria and procedures for evaluation. Also, having to develop new abilities and change old habits poses an enormous threat to many individuals. It is claimed that new institutions have less problems in staff relations than old institutions trying to convert their programs while maintaining most of their faculty and staff. This may be more theoretical than real, since the system for matching up people with jobs is not very effective; many people do not know their own capabilities and limitations; new kinds of abilities and teaching styles are being called for, and there are no training institutions set upon helping prospective postsecondary educators acquire them.

22. Relations with State Departments of Education

Many states have either mandated competency-based teacher education or have developed "incentives" (like withholding funds to non-CBE programs) for their adoption. Some states are considering CBE for all secondary schools. Others are considering CBE for vocational secondary programs. Problems generated by conversion to CBE on this scale have yet to be discovered and analyzed. Undoubtedly, changes will be required in the kinds of services provided by state departments of education and in the kinds of interchanges that occur between educational practitioners and state-level personnel. In addition to the secondary program of the Regional Learning Service of Central New York, the emerging statewide CBE secondary system for Oregon should provide rich opportunities for analysis of CBE at the secondary level and of relations between programs and state educational personnel.

23. Institutional Research and Information Acquisition

A good deal of institutional research in CBE is "formative program evaluation." That is, attempts are being made to analyze the consequences of different approaches to education and educational administration--positive and negative--and to convey this information to actors in the system, so that it may be used to bring about further changes or refinements in programs. Some institutions wish to conduct longitudinal case studies on their students to determine possible long-range effects of formal education. Regarding information acquisition, offices of institutional research are often charged with responsibilities for acquiring information on competency specification, assessment systems, pedagogical innovations, etc. There are enormous problems in locating and comprehending information needed to implement CBE programs. The problem is aggravated by the fact that most CBE practitioners are far too busy setting up and running new programs to have time for disseminating information--writing, conversing, troubleshooting or consulting at other institutions, attending conferences, etc. In addition to pressures of rapid, thoroughgoing change which prevail against reflection and dissemination, these kinds of activities tend not to be included in budgets and otherwise legitimized. There is, therefore, a need to create avenues for technical assistance among and to CBE practitioners.

24. Legal Rights and Responsibilities of States, Educational Institutions, and Students

Many of the most significant legal implications of CBE are discussed by Michael Rebell.* At the secondary level, there are additional problems. The most obvious of these has to do with compulsory school attendance to a certain age. If CBE is instituted at the secondary level, compulsory attendance laws will have to be reexamined. Will

* "Legal and Legislative Implications of Competency-Based Education." Prepared for EPRC/SURC, NIE Contract #400-75-0036, June 30, 1975.

students be required to remain in the system until they have attained a particular level of proficiency with respect to certain kinds of competence? Will they be allowed to exit the system if they attain prescribed levels of competences before they reach the age of 16? In addition, entirely new systems for allocating resources might need to be developed to accommodate innovations introduced under the rubric of CBE. Furthermore, if certain competencies are verified to be basic to functioning in society (minimal skills), this would undoubtedly hold implications for individual rights to an effective education with respect to those competencies. Exploring possible legal implications of CBE would contribute to the development of well-formulated laws and regulations which bear upon education.

D. CONCLUSION

The problems confronting those attempting to implement competency-based programs are indeed challenging. The extent to which the elements of educational programs must change to accommodate CBE very much depends on the extent to which goals and processes of CBE differ from those of traditional programs. Moreover, there are implications for programs relating to student populations served. Certain things need to change to accommodate student populations not well-served by traditional programs. For example, for adult populations, flexibility of scheduling and place are very important. For minority students, a range of assessment instruments, pedagogical techniques and materials are called for that recognize cultural diversity. Serving both populations well also calls for special communications skills on the part of faculty and administrators of educational institutions.

Considerable innovation is occurring under the rubric of CBE. A good deal of it will probably merit being called "reform." Most of the change has come about at the grass roots level--harried educators being forced to make do with little help from the research and development community. It would be most interesting to see what might be accomplished with greater support.